

it can be used as a diagnostics tool to tune burners or overfire dampers to minimize this effect. Typically, extremely high or low values for CO and NOx reflect bad actors (incomplete combustion) which should be tunable. The CO2 and O2 analyzers will be used to determine air flow balancing, plus will be used for boiler efficiency (gas loss method) calculations. Additionally, the test O2 analyzers will be used to reconcile accuracies with the station O2 analyzers (both test grids are at the same location).

Obviously during the performance testing, we will also determine the following conditions:

- Main Steam and Hot Reheat temperatures
- Main Steam and Hot Reheat attempering spray flows
- Boiler Section Cleanliness factors
- coal quality levels (proximate and ultimate analysis)
- fly ash LOI (unburned carbon content)
- bottom and air heater ash (unburned carbon content)
- Boiler Efficiency (heat loss method)

The boiler testing schedule is listed below. We will work around the turbine performance testing schedule. Note, it is important to setup the burners and overfire air system as quickly as possible, to ensure and support unit startup. However over the following three weeks, tuning and diagnostics will be conducted to get the system balanced and optimized for NOx, CO, LOI that maintain Main Steam and Reheat temperatures. Final acceptance testing will be conducted four to five weeks after startup to allow the boiler to get fouled and seasoned to typical operating conditions.

Boiler Testing Schedule IGS Unit 1

IGS Unit 1 Pre-Outage Baseline Testing

2/19-20/03 (test setup 2/13-18/2003)

establish baseline conditions for CO, NOx, O2 at boiler outlet

IGS Unit 1 Post-Outage Baseline Testing

April 1st week (unit startup) burner turndowns

It is imperative on unit startup to tune the burners and overfire air system to get good flame profiles that the scanners will recognize.

Test Set-up during last week of Unit 2 shutdown (3/24-31/03)

April 2nd and 3rd weeks- Tuning and diagnostic testing